



MSIAC M&S Newsletter

November 2005

The Modeling and Simulation Information Analysis Center (MSIAC) M&S Newsletter is now available as an automatic service.

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If you would like to submit an article to be highlighted in the *MSIAC M&S Newsletter*, please forward the article (along with its source data and URL, if available) to the MSIAC Help Desk no later than 15 workdays prior to the publication of the next Newsletter. Normally, the Newsletter is published on/about the first of each month. Potential articles as well as questions or comments on the Newsletter can be emailed to msiachelpdesk@msiac.dmsi.mil.

The MSIAC also publishes the quarterly *MSIAC Journal On-line*. If you would like to see the current issue of the *MSIAC Journal On-line* visit: <http://www.msiac.dmsi.mil/journal>. If you would like to submit an article for the Journal On-line, please email your paper or article to msiachelpdesk@msiac.dmsi.mil at least 45 days prior to the next publication date.

UPCOMING EVENTS

14-18 November 2005
[International Week of Simulations](#)
Ljubljana, Slovenia

14-18 November 2005
[JIDPS Acceptance Test](#)
Suffolk, VA

15 November 2005
[DoD VV&A Technical Working Group](#)
Alexandria, VA

28 November - 1 December 2005
[Interservice & Industry Training, Simulation & Education Conference \(I/ITSEC\)](#)
Orlando, FL

6-8 December 2005
[USSOCOM Chemical, Biological & Nuclear Exhibition](#)
Tampa, FL

12-16 December 2005
[ITEA Modeling and Simulation Workshop](#)
Las Cruces, NM

15-16 December 2005
[NATO's Research and Technology Organisation, M&S of Civil Emergency Planning in the Context of Defence Against Terrorism](#)
Italy

I/ITSEC 2005, "ONE TEAM, ONE FLIGHT, ONE TRAINING FUTURE"

A message from the 2005 (I/ITSEC) Interservice/Industry Training Simulation and Education Conference Committee:

In a time of profound change, we must build new alliances, form new fighting structures, capitalize on the information revolution and create an agile, responsive, effective force out of our many parts.

One Team. Our forces are now unrivaled in might on land, sea and air. Combined in new ways, armed by the power of information in addition to weapons, the 21st century warfighter will be prepared for the full range of operations that confront us in an asymmetric world. Augmented by our homeland defenders, intelligence community, and Coalition partners, these capabilities position us to successfully engage in a far-reaching and unyielding campaign to defeat those

who threaten peace, stability, and justice at home and abroad.

One Fight. To defeat adaptive enemies, we must out-think them as well as out-fight them. By realizing a heightened state of shared situational awareness and knowledge amongst all elements of our team, we are positioned to achieve situational dominance. And, by implementing command and control structures focused on interoperability and integration, we dramatically increase survivability, timeliness, and responsiveness.

One Training Future. Only recently has our training technology matured sufficiently to provide the training agility required to support operational agility on the Joint and Combined scale. Now, for the first time, via Live, Virtual, and Constructive training, we seek to provide an integrated suite of tools to address the full scope of training from high-level staff to individual combatants across the Services.

We are a team. We share a common mission. And, we must build a common future. The theme for I/ITSEC 2005, "One Team. One Fight. One Training Future." emphasizes the need to work together and share information across the many dimensions of factors influencing this campaign: combined operations; joint training exercises; acquisition activities; and research endeavors—across countries; across government agencies; across services; across companies; and across government, industry and academia. For more information about I/ITSEC 2005 visit: <http://www.iitsec.org/>

U.S. AIR FORCE ADDS NIGHT VISION TO F-16 SIMS

An upgrade to U.S. Air Force F-16 simulators will give students a 360-degree nighttime view in color.

The improved simulators are used by the 310th Fighter Squadron, Luke Air Force Base, Ariz., to teach F-16 student pilots the aircraft's night systems.

"It's going to allow the students to see" what flying is like with night-vision goggles (NVG) "before they have to fly the jet" with them, said Capt. Mike Rasbach, the squadron's flying course manager.

Integrating the night-vision goggle simulation system with the current F-16 simulators "has greatly increased the flight safety and mission effectiveness of F-16 pilots," said Maj. Jonathan Beasley, program manager for the Networked Training Center at Luke. "This provides us with the highest-fidelity F-16 full-mission training system for day, night and all-weather operations."

Brad Morrow, account manager for Defense Department sales for Silicon Graphics (SGI), one of the companies involved in the project, said the upgrades are important for the safety of the pilots.

"For F-16 pilots, there's never been NVG simulation before, so pilots in the past have trained in a single-seat aircraft by taking off and getting to altitude and putting on the goggles," Morrow said. "It doesn't allow them to train to the limits because they have to be safer."

For complete article from (Training and Simulation Journal) TSJ On-line visit: <http://www.tsjonline.com/story.php?F=1103602>

"REAL ENOUGH TO MAKE YOU SWEAT"

In today's advanced technology society, simulations of emergency preparedness must be authentic enough to provide users with scenarios that provide training and skills testing to prepare them for real situations. The following article, appearing in the Oct/Nov 2005 issue of Cargo Security International, describes an innovative leading-edge training simulation system, Advanced Disaster Management Simulator (ADMS) that has become a proven capability to accomplish this requirement.

"Authentic simulation can help responders to better recognize the warning signs and gain a level of experience that would otherwise take years of high-risk, high-cost training exercises and actual disasters to develop.

An authentic interactive simulator provides much more operational and economic pay-off than other ways to prepare for disasters. Targeted training, individual skill testing, team exercises, force-wide readiness, doctrine and strategic plans can all be assessed much more affordably and safely. 'Hands-on' experience is the key to successful incident response."

ADMS is a high fidelity, fully interactive, virtual reality training system that provides emergency responders an opportunity to develop skills in command, control, mitigation and emergency communication under extremely stressful yet safe conditions. ADMS allows on-scene disaster response team commanders to gain experience and develop maturity that would otherwise take years of high risk, high cost training exercises and actual disasters to develop.

In use, field tested and constantly improved for over a decade, ADMS provides the most effective NIMS and ICS incident management preparedness to public safety and emergency response teams through realistic, interactive, real-time training.

ADMS simulates emergency incidents such as terrorist acts, aircraft accidents, hazardous material spills, airfield incursions, fires and natural disasters for the purposes of multi-agency coordination, training, planning, testing and validating emergency plans.

For complete article visit Advanced Disaster Management Simulator at:
<http://www.admstraining.com/>

PLUGGING IN

Bearing the strain of every full-motion flight simulator is a set of hydraulically powered legs that lift and rock a 15-ton metal box back and forth through a set of movements that replicate precisely how the aircraft would respond to a pilot's input.

Hydraulic-based motion systems have been the mainstay of flight simulators since the 1950s, with six-degrees of freedom systems entering the field in the 1970s. By the 1980s,

the military world was adopting full-motion systems for its tanker, airlifter and helicopter simulators.

An evolution is occurring in the simulator motion system world that is seeing the introduction of electrically powered systems. Some experts believe the benefits of electric so outweigh the issues associated with messy and difficult-to-maintain hydraulic systems that electric motion could become the standard within a few years.

Technology advances have allowed engineers to create electric motion systems that can support the weight of a full-flight simulator, typically around 30,000 pounds. Fears that electric systems would be less responsive or less realistic have proved unfounded. If anything, the new breed of electric motion systems is more accurate and responsive.

The U.S. Air Force took delivery of its first heavy payload weapons system trainer with an electric-control motion system in July. FlightSafety International delivered the C-17 Globemaster simulator to Air Mobility Command and prime contractor Boeing. The simulator is located at March Air Force Reserve Base, Calif., and will be the first of six C-17 simulators equipped with electric-control loading and motion systems.

The U.S. Army's Flight School XXI helicopter crew training program is also going electric. Its fleet of almost 60 simulators will include electrically powered full-motion systems. "All the old long-term issues with hydraulics are gone," said Lenny Genna, vice president of army programs at L-3 Link Simulation and Training, a major subcontractor on Flight School XXI. "We thought it was the right thing to do, from a life-cycle cost perspective and because you have no environment issues from things such as leaking hydraulics."

For complete article from (Training and Simulation Journal) TSJ On-line visit:
<http://www.tsjonline.com/story.php?F=1105471>

USJFCOM, HEWLETT-PACKARD SIGN COOPERATIVE RESEARCH AND DEVELOPMENT AGREEMENT

(NORFOLK, Va., - Oct. 14, 2005) - U.S. Joint Forces Command (USJFCOM) signed this week a Cooperative Research and Development Agreement (CRADA) with the Hewlett-Packard Company under the provisions of the Federal Technology Transfer Act of 1986.

The CRADA between USJFCOM and HP is a five-year cooperative agreement focused on high performance computing. USJFCOM is researching computer resource allocation applications to effectively and efficiently use multi-processor computer clusters.

These powerful computer resources will support various joint modeling and simulation environments used to accomplish elements of USJFCOM's joint training and joint experimentation missions.

For complete article visit:
<http://www.jfcom.mil/newslink/storyarchive/2005/pa101405a.htm>

VIRTUSPHERE SECURES FIRST MILITARY CONTRACT

The U.S. Office of Naval Research has ordered a VirtuSphere immersive locomotion system for its Virtual Technologies and Environments (VIRTE) program.

The 8.5-foot sphere, produced by Redmond, Wash.-based VirtuSphere Inc., enables immersive, physical training in virtual settings.

"Unlike desktop simulations, the VirtuSphere allows the trainee to be physically challenged while gaining important skills. The design allows for easy transportation and set-up, enabling training simulation capabilities from the barracks to the battlefield," said Alexey Palladin, chief executive officer of VirtuSphere.

Trainees can walk, run, jump or roll inside the simulator.

"We are eager to experiment with the VirtuSphere to see how its capabilities compare to other input devices in training combat tasks," said Cmdr. Dylan Schmorrow, program manager at the Office of Naval Research. "The VirtuSphere provides us with an innovative locomotion input device for virtual environment research."

The sphere is mounted on wheels that enable it to rotate in any direction. Trainers wear a wireless head-mounted display and, once inside the ball, can navigate through the virtual scenes as they would in real life.

The VIRTE program is researching the use of virtual environments for military training tasks that would be too dangerous, expensive or impossible to do in the real world.

For original article from (Training and Simulation Journal) TSJ On-line visit:
<http://www.tsjonline.com/story.php?F=1103814>

2005 FALL SIWzie AWARD FOR COALITION BATTLE MANAGEMENT LANGUAGE (C-BML) INITIATIVE

Congratulations to Dr. Mike Hieb and his team for winning a 2005 Fall "SIWzie" Award. The Simulation Interoperability Standards Organization (SISO) has recognized a paper on Coalition Battle Management Language (C-BML) that is the result of early SIMCI development on BML. This is an example of how SIMCI can identify a technology gap and transition the effort to an open standards effort.

The Army and SIMCI developed and funded the original BML work. This was transitioned to the Defense Modeling and Simulation Office (DMSO). The C-BML SISO effort is a standardization initiative working from the prototypes and initial efforts from the SIMCI and DMSO work.

Both C-BML and the Military Scenario Definition Language (MSDL) are being set up as Product Development Groups (PDGs) in SISO. MSDL is being led by the OneSAF

program and the two PDGs are closely coordinating their efforts. C-BML also has been established as a Technical Area under NATO Modelling and Simulation Group. The NATO Group (MSG-048) will use the SISO specification to develop a NATO reference implementation and STANAG (NATO Standard).

The "SIWzie" award for the BML paper demonstrates the relevance of SIMCI C2-Simulation Standards to the wider M&S Community.

To view this paper and other SIWzie winners please visit:

<http://www.sisostds.org/index.php?tg=article&idx=More&article=256&topics=61>

**L-3 COMMUNICATIONS' LINK
SIMULATION AND TRAINING JOINS
U.S. ARMY RDECOM-STTC AND
UNIVERSITY OF CENTRAL FLORIDA
TO FORM NEW RESEARCH
LABORATORY**

(NEW YORK, NY – Oct. 18, 2005) - L-3 Communications (NYSE: LLL) announced that its Link Simulation and Training (Link) division has joined the U.S. Army Research Development and Engineering Command's Simulation and Training Technology Center (RDECOM-STTC) and the University of Central Florida (UCF) in establishing a research laboratory for modeling, simulation and training technology development.

Formation of this research initiative, which will be known as the Government-Industry-Academia Simulation Laboratory, was formalized through the joint signing of a Cooperative Research and Development Agreement (CRADA). Under the CRADA, Link, RDECOM-STTC and UCF will develop live, virtual and constructive simulation capabilities and an associated test bed environment to pursue advancements in modeling, simulation and training.

"This laboratory will provide an objective environment for Link, the U.S. Army's Research Development and Engineering Command's Simulation and Training Technology Center and the University of Central Florida's Institute for Simulation and

Training to support innovative modeling, simulation and training research and technology development," said John McNellis, president of Link Simulation and Training. "We look forward to working collaboratively in undertaking basic research, applied research and advanced development projects that will result in improved modeling, simulation and training solutions that better support the warfighter." For more information visit:

<http://www.link.com/>

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